IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Patent Application of: Confirmation No.: 1455

Steven Barritz, et al.   Date: January 9, 2007

Serial No.: 10/034,858   Group Art Unit: 2165

Filed: December 27, 2001   Examiner: Neveen Abel Jalil

For: A COOPERATIVE, INTERACTIVE, HEURISTIC SYSTEM FOR THE CREATION
       AND ONGOING MODIFICATION OF CATEGORIZATION SYSTEMS

VIA EFS-WEB
Commissioner for Patents
P.O. Box 1450
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APPEAL BRIEF PURSUANT TO 37 C.F.R. §41.37

Sir:

This appeal is taken from the Final Office Action mailed August 23, 2006. In support of
the Notice of Appeal filed December 20, 2006, the following Appeal Brief is presented.

I.   **REAL PARTY IN INTEREST**:

The real party in interest in the above-identified application is: Treetop Ventures, LLC

II.   **RELATED APPEALS AND INTERFERENCES**:

There are no related appeals or interferences of which applicants are aware regarding the
above-identified application.

III.   **STATUS OF CLAIMS**:

Claims 16, 18, 26 and 28 have been allowed.

Claims 8 and 34 stand rejected because of various outstanding informalities.

Claims 1-7, 14-15, 17, 19-25, 27, 30 and 32 stand rejected under 35 U.S.C. §102(e).

Claims 29, 31, 33 and 35 stand rejected under 35 U.S.C. §103(a).

IV.   STATUS OF AMENDMENTS:

A response to the Final Office Action was filed on November 22, 2006 in which claims 1, 3, 6-8, 15, 16, 18, 19, 22, 23, 25, 26, 28-30 and 34 were amended to address the Examiner's rejections under 35 U.S.C. §102(e) and 35 U.S.C. §103(a). An Advisory Action was mailed on December 12, 2006. A Notice of Appeal was filed on December 20, 2006. The Advisory Action indicates that claims 16, 18, 26 and 28 are allowed and for the purposes of appeal, the amendments to the claims in the response to Final Office Action filed on November 22, 2006 will be entered.

V.   SUMMARY OF CLAIMED SUBJECT MATTER:

The claimed invention recites a system and method which operates substantially interactively and to a degree in an automated manner for the creation of search categories and search attributes for use on the Internet. The overall effect of the invention is to facilitate the creation and indexing and searching for physical and informational items stored in Internet databases or storage places.

The invention allows both the creators and listers of information on the Internet, such as on websites and the like, as well as those who search for such information to tweak, improve and render in better condition the tools for the posting and searching of information on the Internet.

Referring to Fig. 1, an interactive and at least partially automated system 10 is shown that produces search categories and search attributes which facilitate the creation, indexing and searching for physical and informational items stored on Internet databases and the like. The system 10 includes cooperative categorization system 14 that users 12 use to interactively modify or supplement search terms assigned to items to be found by the system 14. Other features include DAC 16, for dynamically adding categories representing categories of items to be found by the system 14, and the similar facility DAA 18, which provides the functionality of dynamically adding attributes.

Continuing with reference to Fig. 1, an adaptive attribute display ("AAD") module 20 operating alone and/or in conjunction with a guided attribute tagging ("GAT") module 28 and the advanced attribute selection ("AAS") module 24 enable optimal display of attributes to the user of the system.

Other features include a pooling of attributes and categories ("P C/A") module 26 providing for pooling functionality, a consolidation of categories and attributes ("C C/A") module 28 providing for the consolidation of categories and attributes, and a intelligent restructuring of categories and attributes ("IR C/A") module 30, constituting the intelligent restructuring of categories and attributes. See, for example, paragraphs 63-71. Modules 26, 28 and 30 operate individually or cooperatively and to assure a manageable display of categories.

Claim 1, therefore, calls for an interactive system for enhancing the searchability of data, the system comprising a categorization system that associates search terms defining categories or attributes with items to be found, and a communication system for communicating with the categorization system and with a store of information from which information is to be selected based on the search terms (see paragraphs 35, 36, 38 and 39). Further, a cooperative facility associated with the categorization system that users, including listers and searchers, use to interactively and at least partially automatically, modify or supplement the search terms initially assigned to the items to be found by the categorization system, wherein the categorization system, communication system and cooperative facility are structured to store the modified or supplemented search terms.

Claim 8 calls for an interactive system that enhances an ability for data to be searched that comprises a categorization system that associates search terms defining categories or attributes with items to be found and a communication system that communicates with the categorization system and with a store of information from which information is to be selected based on the search terms (see paragraphs 35, 36, 38 and 39). Further, a cooperative facility associated with the categorization system is defined that users, including listers and searchers, use to interactively and at least partially automatically, modify or supplement the search terms initially assigned to the items to be found by the categorization system (see paragraphs 35, 36, 38 and 39). The categorization system, communication system and cooperative facility are structured to store the modified or supplemented search terms, including a pooling facility that is operable in conjunction with the cooperative facility to limit the number of attributes displayed to users upon their initial viewing of available attributes (see paragraph 59).

Claim 16 calls for an interactive system of enhancing an ability for data to be searched, the interactive system comprising a categorization system that associates search terms defining

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categories or attributes with items to be found and a communication system that communicates with the categorization system and with a store of information from which information is to be selected based on the search terms (see paragraphs 35, 36, 38 and 39). Further, a a cooperative facility associated with the categorization system is define that users, including listers and searchers, use to interactively and at least partially automatically, modify or supplement the search terms initially assigned to the items to be found by the categorization system , wherein the categorization system, communication system and cooperative facility are structured to store the modified or supplemented search terms, wherein the cooperative facility includes a secondary facility that imposes limitations on types of attributes permitted to be added to the database holding the attributes (see paragraph 59).

Claim 18 calls for an interactive system of enhancing an ability for data to be searched that comprises a categorization system that associates search terms defining categories or attributes with items to be found and a communication system that communicates with the categorization system and with a store of information from which information is to be selected based on the search terms (see paragraphs 35, 36, 38 and 39). Further, a cooperative facility associated with the categorization system that users, including listers and searchers, use to interactively and at least partially automatically, modify or supplement the search terms initially assigned to the items to be found by the categorization system (see paragraphs 35, 36, 38 and 39). The categorization system, communication system and cooperative facility are structured to store the modified or supplemented search terms, and the cooperative facility includes an intelligent restructuring of categories and attributes facility that iteratively reviews categorization and attribute data to maintain hierarchies that maximize a degree of convergence achieved by a selection at each category level (see paragraph 71).

Claim 26 calls for an interactive system of enhancing an ability for data to be searched that comprises a categorization system that associates search terms defining categories or attributes with items to be found and further defines a communication system that communicates with the categorization system and with a store of information from which information is to be selected based on the search terms (see paragraphs 35, 36, 38 and 39). Further, claim 26 defines a cooperative facility associated with the categorization system that users, including listers and searchers, use to interactively and at least partially automatically, modify or supplement the

search terms initially assigned to the items to be found by the categorization system (see paragraphs 35, 36, 38 and 39). The categorization system, communication system and cooperative facility are structured to store the modified or supplemented search terms, in which the store of information is accessible via the Internet, and wherein the cooperative facility includes a secondary facility that imposes limitations on types of attributes permitted to be added to the database holding the attributes (see paragraph 59).

Claim 28 calls for an interactive system of enhancing an ability for data to be searched, the interactive system comprising a categorization system that associates search terms defining categories or attributes with items to be found and further defines a communication system that communicates with the categorization system and with a store of information from which information is to be selected based on the search terms (see paragraphs 35, 36, 38 and 39). A cooperative facility is associated with the categorization system that users, including listers and searchers, use to interactively and at least partially automatically, modify or supplement the search terms initially assigned to the items to be found by the categorization system (see paragraphs 35, 36, 38 and 39). The categorization system, communication system and cooperative facility are structured to store the modified or supplemented search terms, in which the store of information is accessible via the Internet, and wherein the cooperative facility includes an intelligent restructuring of categories and attributes facility that iteratively reviews categorization and attribute data to maintain hierarchies that maximize a degree of convergence achieved by a selection at each category level (see paragraph 71).

Dependent claim 29 calls for the interactive system of claim 1 to further comprise a monitor facility that, in combination with an automatic clustering facility, minimizes a need of a search engine user to successively refine search terms in a manual fashion, by monitoring which particular result-items a user has historically chosen to visit (see paragraph 72).

Claim 30 calls for a method for searching for data items in a data store that includes operating a computer-based communication system that effects communications between a plurality of data searchers and the data store. Claim 30 further calls for operating a search engine that for data searchers to enter initial key words describing data items to be found. Selected data items are received that are responsive to the initial key words, and a manual review of the received selected data items is initiated. Further, an automatic clustering tool (paragraph 72) is

operated that is responsive to the items manually perused by the data searcher, including items not reviewed by the data searcher, the automatic clustering tool responding to action by users, including listers and searchers, by interactively creating and storing categorization criteria by which at least a portion of the received selected data items are reordered or filtered for being viewed by the data searcher, and/or by which a further search is performed and results are based thereon. See, for example, paragraphs 72-76.

Dependent claim 31 calls for the method of claim 30, in which the automatic clustering tool responds to a searcher's data item perusal activity in a prior session. See, for example, paragraphs 72-76.

Dependent claim 33 calls for the method of claim 30, in which the automatic clustering tool is responsive to a given data searchers' reviewing activity over a period of time. See, for example, paragraphs 72-76.

Claim 34 calls for a method that searches for data items in a data store that comprises operating a computer-based communication system that effects communications between a plurality of data searchers and the data store containing the data items, operating a search engine that for the data searchers to enter initial key words describing data items to be found. Selected data items that are responsive to the initial key words are received and provided in a given order, organized into successive viewable pages (see paragraphs 60-62). A manual review of the received selected data items is preferably initiated and an automatic clustering tool is operated that is responsive to the items manually perused by the data searcher, including items not reviewed by the data searcher, the automatic clustering tool responding to action by users, including listers and data searchers, by interactively creating and storing categorization criteria by which at least a portion of the received selected data items are reordered or filtered to be viewed by the data searcher (paragraphs 60-61). A further search is performable with results that are based thereon, in which the automatic clustering tool eliminates selected data items from being viewed by the data searcher, based on the successively created categorization criteria (paragraph 74).

Claim 35 calls for the method of claim 30, including creating search context for a search session and saving search context from a prior search session to a subsequent search session (paragraph 75).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL:

The following grounds of rejection are presented for review:

A. Informalities Objection

Whether claims 8 and 34 stand rejected because of various outstanding informalities.

B. Rejection under 35 U.S.C. §102(e)

Whether claims 1-7, 14-15, 17, 19-25, 27, 30 and 32 stand rejected under 35 U.S.C. §102(e) as being anticipated by Suchter ("Suchter," U.S. Patent No. 6,675,161).

C. Rejection under 35 U.S.C. §103(a)

Whether claims 29, 31, 33 and 35 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Suchter in view of Chen et al. ("Chen," U.S. Patent No. 6,728,752).

VII. ARGUMENT:

A. Informalities Objection

Applicants will address the minor objections with regards to claims 8 and 34 by changing the claims terms, "operable with" to "configured in conjunction with" as requested by Examiner, at the conclusion of the instant appeal.

B. Rejection under 35 U.S.C. §102(e) under Suchter

Claims 1-7, 14-15, 17, 19-25, 27, 30 and 32 are rejected under 35 U.S.C. §102(e) as being anticipated by Schuter ("Schuter," U.S. Patent No. 6,675,161). Applicants respectfully traverse this rejection.

The present invention dramatically improves shortcomings of prior art search engines and categorization systems by enabling modifying and supplementing search categories and search attributes interactively and, to a degree automatically, by both listers and searchers.

Applicants' claim 1 is directed to an interactive system for "enhancing an ability for data to be searched[.]" More particularly, claim 1 defines "a categorization system," a "communication system" and a "cooperative facility." The categorization system "associates

search terms defining categories or attributes with items to be found[.]" The communication system communicates with the categorization system and with "a store of information from which information is to be selected based on the search terms[.]" The cooperative facility is "associated" with the categorization system and that "users, including listers and searchers, use to interactively and at least partially automatically, modify or supplement the search terms initially assigned to the items to be found by the categorization system[.]" The categorization system, the communication system and the cooperative facility "are structured to store the modified or supplemented search terms."

Applicants other independent claims, namely claims 8 and 30 include similar features.

Applicants have carefully reviewed the Examiner's Advisory Action and Suchter and respectfully disagree with the Examiner's conclusion that Suchter teaches all of the features described in applicants' claims 1-7, 14-17, 19-27, 30, 32 and 35. In particular, "listers" and "searchers" in Suchter cannot interactively modify or supplement search terms that are initially assigned to items to be found by a categorization system. Moreover, applicants respectfully disagree with the Examiner's characterization of the terms "listers" and "searchers" as they apply to Suchter.

The Court of Appeals for the Federal Circuit has emphasized that a patent specification is the "single best guide to the meaning of a [claim] term[.]" *Phillips v. AWH Corporation*, 415 F.3d 1303, 1321 (Fed. Cir. 2005). Further, the Court stated that the specification "acts a dictionary when it expressly defines terms used in the claims or when it defines terms by implication." *Id.* Accordingly, the Examiner is respectfully directed to applicants' definition of the terms, "listers" and "searchers," found at paragraph [0021] of the present specification, and reproduced below:

> Generally, there are three parties who use CSs. The proprietors of the CS who operate and host the CS are one such party: we'll refer to them as the "hosts". Typical hosts include eBay, whose CS supports it's auction business, or MSN, which offers free use of its CS to generate web traffic. Other hosts might include organizations that operate CSs to be used by internal personnel, or by customers, for example, a master CS containing information on a company's entire line of products. Other parties are those who include or list items in the CS, and must determine the appropriate categorizations: we'll refer to them as "listers". Listers include those

individuals selling items through eBay, and the MSN personnel who
maintain MSN's CS. The third parties are the end-users who utilize the CS
to access information or find items: we'll refer to them as "searchers". We'll
refer to listers and searchers collectively and generally as "users".

Thus, applicants' claim 1 defines "users" consistently with the specification to include "listers"
and "searchers."

In the Advisory Action, the Examiner states, "Suchter's invention explicitly teaches in
various parts that both the owner (i.e., lister) and the operator (i.e., searcher) have edit access to
the categorization system , see column 8, lines 19-34." Applicants respectfully disagree with the
Examiner's conclusion that Suchter's "owner" is tantamount to applicants' "lister" and that
Suchter's "operator" is tantamount to applicants' "searcher." Suchter's owners/operators of
search engines are, instead, tantamount to applicants' "hosts."

Suchter does not teach or suggest that an "operator" of a search engine is a "searcher." At
column 1, lines 26-30, Suchter states, "[i]n one mode of operation, a user provides a search query
to the search engine, which locates information in the index about responsive documents and
displays a set of search results that satisfy the query." Further, at lines 46-56, Suchter states, "…
separate enterprises or companies may own and operate the search engine and the technology that
is used to create and manage the underlying directory (the 'master directory'). Different search
engine operators may wish to provide a taxonomy to their end users that is different from the
standard taxonomy that is reflected by the master directory." Thus, Suchter distinguishes
between one party that owns underlying search engine technology, another party that provides a
search engine, and "end users" that locate items of interest. Applicants submit that the Examiner
has incorrectly defined "operators" as "searchers" and, instead, it is the "end users" of Suchter
operating client 100 (Figs. 1A and 1B) that are tantamount to applicants' "searchers."

Further, Suchter does not teach that an operator of a search engine is the same party that
searches for items of interest using the search engine. In particular, Suchter cites to a "owner or
operator" of a "customized directory" that is authorized or otherwise allowed to modify a
directory structure (see Suchter, column 8, lines 14-30). In an embodiment that employs web
spider software, Suchter states "[t]he owner or operator of [a] master directory uses a crawler
program to continuously re-crawl the Word Wide Web." (See Suchter, column 7, lines 12-14).

Applicants' claimed "searchers" and, similarly, Suchter's end users do not employ technology that is operable to crawl the World Wide Web to locate documents.

Further, Suchter teaches that an "owner" or "operator" uses administrative client 116 (as opposed to client 100) to maintain master directory 122 and/or custom directory 126 in order to provide search functionality for clients 100 to locate a document 121 that is stored on origin server 120. Therefore, Suchter does not teach or suggest that searchers, i.e., end users operating client 100, have any ability to interactively modify or supplement search terms that are initially assigned to items to be found by a categorization system. Accordingly, elements of applicants' claim 1 are missing from the teachings of Suchter because Suchter does not teach or suggest a cooperative facility associated with the categorization system that listers and searchers use to modify or supplement search terms initially assigned to items.

Moreover, Suchter does not teach or suggest applicants' "categorization system" that associates "search terms" defining categories or attributes with items to be found. Suchter does not teach the use of search terms. Instead, Suchter teaches a directory structure that is an index of documents in a cache 110 or available over a network 104 (see Suchter, column 5, lines 60-65). Directory 114 may be organized according to a taxonomy of categories that classify electronic documents by subject matter, technical field, etc., but not "search terms."

In the present Office Action, the Examiner cites to Google to define the word, "term" and concludes "term" means "terminology is the set of all the terms related to a given subject field or discipline (i.e. category or subtitle). Applicants respectfully submit that Suchter does not teach or suggest applicants' claim 1 feature of a cooperative facility associated with a categorization system that users, including listers and searchers, use to interactively modify or supplement search terms assigned to items to be found by their categorization system. Therefore, elements of applicants' claim 1 are missing from the teachings of Suchter, and, accordingly, Suchter does not anticipate applicants' claim 1 under 35 U.S.C. §102(e).

Claims 2-7, 14-15, 17, 19-25, 27 and 32 depend directly or indirectly from claims 1, 8 and 30, respectively, are patentable for the same reasons as well because of the combination of features in those claims with the features set forth in the claim(s) from which they depend.

C. Rejection under 35 U.S.C. §103(a) under Suchter in view of Chen et al.

Claims 29, 31, 33 and 35 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Suchter in view of Chen et al. ("Chen," U.S. Patent No. 6,728,752). Applicants respectfully traverse this rejection.

Chen is cited for teaching various features of claims 29, 31, 33, and 35. In particular, the Examiner cites to Chen for teaching determining particular result-items a user has historically chosen to visit, teaching an automatic clustering tool responds to a searcher's data item perusal in a prior session, and for teaching the automatic clustering tool being responsive to a searcher's reviewing activity over time. The Examiner concludes, therefore, that it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the teachings of Suchter with those of Chen to arrive at applicants' claims 31, 33 and 35. Applicants respectfully disagree.

Chen regards information browsing using multi-modal features. According to Chen, multi-modal clustering is "the grouping of objects that have data from several modalities associated with them" (column 4, lines 21-28). Modalities regard "disparate types of information such as text, image features and usage." A collection or "corpus" is assembled providing an efficient browse and search functionality. Applicants respectfully submit, however, that Chen does not supply elements of applicants' claim 30 that are missing from the teachings of Suchter. More particularly, Chen does not teach or suggest applicants' "automatic clustering tool" that responding to actions by listers and searchers by interactively creating and storing categorization criteria. Therefore, even if one were to combine Suchter and Chen, as the Examiner has done, applicants' claims 29, 31, 33 and 35 (all of which still would not be taught. Therefore, claims 31, 33 and 35 are allowable over the combination of Suchter and Chen.

Claim 29 stands rejected because the ability to successively refine search terms in a manual fashion does not "carry any patentable weight." Applicants respectfully disagree. Claim 29, currently amended, includes a monitor facility that, in combination with the clustering facility, minimizes the need of the search engine user to successfully refine search terms manually by monitoring particular result items a user has historically chosen to visit. The claim 29 monitoring facility, in combination with the automatic clustering facility, adds further patentable features to applicants' claim 1 and carries patentable weight. Applicants respectfully

submit that successive refinements are minimized by the monitor facility of claim. This patentable feature is not taught or suggested by the combination of Suchter and Chen, and reconsideration is respectfully requested.

VIII.   CONCLUSION:

For the reasons set forth above, it is respectfully submitted that all claims in this application have addressed the formality objections and clearly define over the prior art. Therefore, the Examiner is respectfully requested to reconsider the application, allow the claims as amended and pass this case to issue.
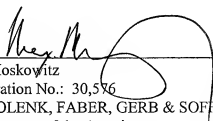
Applicants reserve the right to request an oral hearing upon receipt of the Examiner's Answer.

Credit card payment for the required filing fee in the amount of $250.00 (small entity) is submitted via EFS-WEB.

In the event the actual fee is greater than the payment submitted or is inadvertently not enclosed or if any additional fee during the prosecution of this application is not paid, the Patent Office is authorized to charge the underpayment to Deposit Account No. 15-0700.

THIS CORRESPONDENCE IS BEING
SUBMITTED ELECTRONICALLY THROUGH
THE PATENT AND TRADEMARK OFFICE EFS
FILING SYSTEM ON January 9, 2007.

Respectfully submitted,

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CLAIMS APPENDIX

1. An interactive system of enhancing an ability for data to be searched, the interactive system comprising:

a categorization system that associates search terms defining categories or attributes with items to be found;

a communication system that communicates with the categorization system and with a store of information from which information is to be selected based on the search terms; and

a cooperative facility associated with the categorization system that users, including listers and searchers, use to interactively and at least partially automatically, modify or supplement the search terms initially assigned to the items to be found by the categorization system, wherein the categorization system, communication system and cooperative facility are structured to store the modified or supplemented search terms.

2. The interactive system of claim 1, in which the store of information is accessible via the Internet.

3. The interactive system of claim 1, in which users of the categorization system assign search terms that are hierarchical and assign search terms that are based on items to be found.

4. The interactive system of claim 1, in which the cooperative facility is accessible to the users.

5. The interactive system of claim 1, in which the search terms comprise categories of items to be found that are arranged hierarchically and attributes of items defined descriptively and the categorization and attribute information is stored in a categorization and attribute database.

6.   The interactive system of claim 1, including a dynamic add category facility that a lister of items in the store of information dynamically uses existing categorization and attribute data and dynamically adds additional categories via the cooperative facility.

7.   The interactive system of claim 1, including a dynamic add attributes facility that at least one searcher of items in the store of information dynamically uses existing categorization and attribute data and dynamically adds additional attributes via the cooperative facility.

8.   An interactive system that enhances an ability for data to be searched, the interactive system comprising:

a categorization system that associates search terms defining categories or attributes with items to be found;

a communication system that communicates with the categorization system and with a store of information from which information is to be selected based on the search terms; and

a cooperative facility associated with the categorization system that users, including listers and searchers, use to interactively and at least partially automatically, modify or supplement the search terms initially assigned to the items to be found by the categorization system, wherein the categorization system, communication system and cooperative facility are structured to store the modified or supplemented search terms, including a pooling facility that is operable in conjunction with the cooperative facility to limit the number of attributes displayed to users upon their initial viewing of available attributes.

9.   The interactive system of claim 8, in which the number of displayed attributes is less than 30.

10.   The interactive system of claim 8, in which the displayed attributes are selected based on the greatest number of items under a current category.

11.   The interactive system of claim 8, in which the displayed attributes are selected based on prior searchers' activities.

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12. The interactive system of claim 8, wherein displayed attributes are selected based on a current searcher's search history.

13. The interactive system of claim 8, in which displayed attributes are ordered based on aggregate use of attribute search terms by searchers.

14. The interactive system of claim 1, including a facility that groups together those attributes that are related to one another.

15. The interactive system of claim 1, including an attribute facility that searchers use to specify attribute selections by entry of a plurality of terms connected by Boolean expressions.

16. An interactive system of enhancing an ability for data to be searched, the interactive system comprising:

a categorization system that associates search terms defining categories or attributes with items to be found;

a communication system that communicates with the categorization system and with a store of information from which information is to be selected based on the search terms; and

a cooperative facility associated with the categorization system that users, including listers and searchers, use to interactively and at least partially automatically, modify or supplement the search terms initially assigned to the items to be found by the categorization system, wherein the categorization system, communication system and cooperative facility are structured to store the modified or supplemented search terms, wherein the cooperative facility includes a secondary facility that imposes limitations on types of attributes permitted to be added to the database holding the attributes.

17. The interactive system of claim 1, in which the cooperative facility includes a subsidiary facility that removes redundancies in categorization and attribute search terms.

18.   An interactive system of enhancing an ability for data to be searched, the interactive system comprising:

a categorization system that associates search terms defining categories or attributes with items to be found;

a communication system that communicates with the categorization system and with a store of information from which information is to be selected based on the search terms; and

a cooperative facility associated with the categorization system that users, including listers and searchers, use to interactively and at least partially automatically, modify or supplement the search terms initially assigned to the items to be found by the categorization system, wherein the categorization system, communication system and cooperative facility are structured to store the modified or supplemented search terms, wherein the cooperative facility includes an intelligent restructuring of categories and attributes facility that iteratively reviews categorization and attribute data to maintain hierarchies that maximize a degree of convergence achieved by a selection at each category level.

19.   The interactive system of claim 2, in which users of the categorization system assign search terms that are hierarchical and assign search terms that are based on item attributes.

20.   The interactive system of claim 2, in which the cooperative facility is accessible to the users.

21.   The interactive system of claim 2, in which the search terms comprise categories of items to be found that are arranged hierarchically and attributes of items defined descriptively and categorization and attribute information is stored in a categorization and attribute database.

22.   The interactive system of claim 2, including a dynamic add attribute and category facility that a lister of items in the store of information dynamically uses existing categorization and attribute data and to dynamically add additional categories via the cooperative facility.

23. The interactive system of claim 2, including a dynamic add attribute and category facility for searchers of items in the store of information to dynamically use existing categorization and attribute data and to dynamically add additional attributes via the cooperative facility.

24. The interactive system of claim 2, including a facility that groups together those attributes that are related to one another.

25. The interactive system of claim 2, including a specify attribute facility that searchers use to specify attribute selections by entry of a plurality of terms connected by Boolean expressions.

26. An interactive system of enhancing an ability for data to be searched, the interactive system comprising:

a categorization system that associates search terms defining categories or attributes with items to be found;

a communication system that communicates with the categorization system and with a store of information from which information is to be selected based on the search terms; and

a cooperative facility associated with the categorization system that users, including listers and searchers, use to interactively and at least partially automatically, modify or supplement the search terms initially assigned to the items to be found by the categorization system, wherein the categorization system, communication system and cooperative facility are structured to store the modified or supplemented search terms, in which the store of information is accessible via the Internet, and wherein the cooperative facility includes a secondary facility that imposes limitations on types of attributes permitted to be added to the database holding the attributes.

27. The interactive system of claim 2, in which the cooperative facility includes a subsidiary facility that removes redundancies in categorization and attribute search terms.

28.   An interactive system of enhancing an ability for data to be searched, the interactive system comprising:

a categorization system that associates search terms defining categories or attributes with items to be found;

a communication system that communicates with the categorization system and with a store of information from which information is to be selected based on the search terms; and

a cooperative facility associated with the categorization system that users, including listers and searchers, use to interactively and at least partially automatically, modify or supplement the search terms initially assigned to the items to be found by the categorization system, wherein the categorization system, communication system and cooperative facility are structured to store the modified or supplemented search terms, in which the store of information is accessible via the Internet, and wherein the cooperative facility includes an intelligent restructuring of categories and attributes facility that iteratively reviews categorization and attribute data to maintain hierarchies that maximize a degree of convergence achieved by a selection at each category level.

29.   The interactive system of claim 1, further comprising a monitor facility that, in combination with an automatic clustering facility, minimizes a need of a search engine user to successively refine search terms in a manual fashion, by monitoring which particular result-items a user has historically chosen to visit.

30.   A computer implemented method of searching for data items in a data store, the method comprising the steps of:

operating a computer-based communication system that effects communications between a plurality of data searchers and the data store containing the data items;

operating a search engine that the data searchers use to enter initial key words describing data items to be found;

receiving over the computer-based communication system selected data items that are responsive to the initial key words in a given order of items, organized into successive viewable pages;

initiating a manual review of the received selected data items; and

operating on a computing device an automatic clustering tool that is responsive to the items manually perused by the data searcher, including items not reviewed by the data searcher, the automatic clustering tool responding to action by users, including listers and data searchers, by interactively creating and storing categorization criteria by which at least a portion of the received selected data items are reordered or filtered to be viewed by the data searcher, by which a further search is performable with results that are based thereon.

31.   The method of claim 30, in which the automatic clustering tool responds to a searcher's data item perusal activity in a prior session.

32.   The method of claim 30, in which the automatic clustering tool constantly revises the categorization criteria in response to continuous reviewing of the selected data items by the data searchers.

33.   The method of claim 30, in which the automatic clustering tool is responsive to a given data searchers' reviewing activity over a period of time.

34.   A method that searches for data items in a data store, the method comprising the steps of:

operating a computer-based communication system that effects communications between a plurality of data searchers and the data store containing the data items;

operating a search engine that enables the data searchers to enter initial key words describing data items to be found;

receiving selected data items that are responsive to the initial key words in a given order of items, organized into successive viewable pages;

initiating a manual review of the received selected data items; and

operating an automatic clustering tool that is responsive to the items manually perused by the data searcher, including items not reviewed by the data searcher, the automatic clustering tool responding to action by users, including listers and data searchers, by interactively creating and

storing categorization criteria by which at least a portion of the received selected data items are reordered or filtered to be viewed by the data searcher, by which a further search is performable with results that are based thereon, in which the automatic clustering tool eliminates selected data items from being viewed by the data searcher, based on the successively created categorization criteria.

35.   The method of claim 30, including creating search context for a search session and saving search context from a prior search session to a subsequent search session.

EVIDENCE APPENDIX

None.

RELATED PROCEEDINGS APPENDIX

None.